



Westinghouse Electric Company
Nuclear Services
1000 Westinghouse Drive
Cranberry Township, Pennsylvania 16066
USA

U.S. Nuclear Regulatory Commission
Document Control Desk
11555 Rockville Pike
Rockville, MD 20852

Direct tel: 412-374-4643
Direct fax: 724-720-0754
e-mail: greshaja@westinghouse.com

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Subject: Clarification of Westinghouse Position Presented during the NRC Commission Meeting:
"Briefing on Steam Generator Tube Degradation," February 7, 2013

During the Westinghouse presentation (made by Damian Testa, Product Manager, Steam Generator Management and Modification Programs) and responses to questions from the Commissioners at the February 7, 2013 Nuclear Regulatory Commission (NRC) Meeting "Briefing on Steam Generator Tube Degradation," it was noted that the observed shallow steam generator tube-to-tube wear in San Onofre Nuclear Generating Station (SONGS) Unit 2 is consistent with close proximity of the tubes in conjunction with vibration caused by out-of-plane and/or in-plane turbulence excitation. This letter clarifies the Westinghouse position on the cause of the tube-to-tube wear in the SONGS Unit 2 steam generators and it addresses the conservativeness of assuming the cause to be in-plane fluidelastic instability as has been observed in SONGS Unit 3.

The Westinghouse position for SONGS Unit 2 is based on the size, location, and extent of the wear evidence as identified by eddy current testing. As stated in the presentation, eddy current data shows no extension of wear scars beyond the width of the antivibration bars (AVBs). Tube vibration due to in-plane stability would result in the extension of the wear scars beyond the width of the AVBs as observed in SONGS Unit 3. Also, the two tubes in SONGS Unit 2 with tube-to-tube wear have no indications of top tube support wear as found with tubes associated with in-plane instability in Unit 3.


Westinghouse acknowledges that it is conservative to assume in-plane fluidelastic instability in SONGS Unit 2 in assessing the future performance of the steam generators. This is true because the tube-to-tube wear caused by in-plane fluidelastic instability would be expected to be greater for these tubes compared to tubes that experience vibration caused by turbulence.

The Westinghouse position that the tube-to-tube wear in the SONGS Unit 2 steam generators was caused by tube proximity and turbulence rather than in-plane fluidelastic instability was the result of our own independent investigation. Westinghouse recognizes that other operational assessments developed for the SONGS Unit 2 steam generators take a more conservative approach and assume the potential for fluidelastic in-plane instability. Although Westinghouse firmly believes that our determination of the cause of the tube wear is both accurate and appropriate, we acknowledge that the Southern California Edison decision to conservatively consider the cause of the tube-to-tube wear in SONGS Unit 2 to be in-

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plane fluidelastic instability represents an acceptable basis for operating SONGS Unit 2 at 70% power for 5 months followed by a mid-cycle inspection. Please contact Damian Testa (724-722-6078) directly if there are any questions on this clarification.

Very Truly Yours,

A handwritten signature in black ink, appearing to read "JA Gresham", written in a cursive style.

James A. Gresham, Manager
Regulatory Compliance